

REMARKS

Claims 1 to 12 and 16 to 18 remain in the present application. Claims 16 to 18 have been added for which there is support in the specification, claims and drawings as originally filed. Claims 13 to 15 have been canceled without prejudice.

Reconsideration of the Examiner's decisions and reexamination of this application are respectfully requested.

The rejections:

Claims 1 to 12 have been rejected by the Examiner on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 to 11 of Schmidt U.S. Patent 6,946,390.

Claims 1 to 11 [Did the Examiner mean claims 1 to 12?] have been rejected by the Examiner under 35 USC §102(e) as being anticipated by Schmidt.

Claims 1 to 11 [Did the Examiner mean claims 1 to 12?] have been rejected by the Examiner under 35 USC §102(b) as being anticipated by Schmidt WO 02/054458. This rejection should have been under 35 USC §102(a) since the publication date of the reference is less than 1 year before Applicants' priority date of December 18, 2002.

Due to the commonality of the Examiner's rationale in applying each of these rejections, the three rejections will be addressed at the same time.

It will be initially noted that Schmidt WO 02/054458 is the PCT counterpart to Schmidt US Patent 6,946,390. Both documents hereafter will be simply referred to as “Schmidt”.

Applicants’ invention as embodied in claim 1 is distinguishable from Schmidt in at least two respects. First, Applicants’ claim 1 recites “applying a radiation field to the polymerization starter layer for selectively reducing a density of polymerization starters of the polymerization starter layer”. [emphasis added]. Thus, polymerization starters are provided on the substrate and then their density is selectively reduced. This is a consequence of the radiation field being applied which deactivates certain of the polymerization starters. Accordingly, the density of the polymerization starters varies across the substrate due to the selective reduction of the polymerization starters. Schmidt, on the other hand, shows no selective reduction of the polymerization starters. When the polymerization starters are exposed to UV light as noted at col. 4, ll 26-29 of Schmidt, they are uniformly exposed to the UV light so all areas of polymerization starters are affected at the same rate. There is no selective reduction of the density of the polymerization starters as disclosed by Applicants. Accordingly, Schmidt cannot disclose or teach this step of Applicants’ claim 1.

Applicants’ claim 1 further recites “structuring the substrate using the polymerized monomers as a mask”. In Applicants’ claim 1, due to the variation in density of the polymerization starters as explained above, the polymerized monomers that form on the polymerization starters will vary in topography. That is, the greater the density of the polymerization starters, the thicker will be the polymerized monomer. Thus, when the substrate is structured, e.g., by etching, using the polymerized monomers as a mask, the underlying substrate will also vary in topography similar to that of the polymerized monomers. Schmidt, on the other hand, does not use the polymerized monomers as a mask to structure the substrate. Whether the substrate in Schmidt is considered to be substrate 14 or photoresist 10, the substrate is not changed or structured one whit by the presence of the polymerized monomers. Thus, the polymerized

monomers in Schmidt are not used as a mask. Accordingly, Schmidt cannot disclose or teach this step of Applicants' claim 1.

In each of the above rejections, the Examiner has stated that "The starter is then polymerized (taught by the patent to mean exposed to UV radiation), then applying a monomeric layer and patterning it through a mask, and using that patterned layer as a mask to each the substrate." [emphasis added].

Applicants take issue with the above statement made by the Examiner. The monomeric layer in Schmidt is not patterned by a mask. The Examiner is respectfully requested to point out where in Schmidt it is disclosed or taught that the monomeric layer is patterned by a mask. Further, since the monomeric layer in Schmidt is not patterned, it cannot be used as a mask.

In view of the above remarks, it is submitted that claim 1 is not anticipated or rendered obvious by Schmidt. Therefore, the rejection of claim 1 as being anticipated or obvious is erroneous and should be withdrawn and a terminal disclaimer should therefore not be required.

Inasmuch as claims 2 to 12 depend, directly or indirectly, upon claim 1, and since claim 1 is believed to be patentable, then claims 2 to 12 should be patentable as well. In addition, claim 12 at least is believed to be independently patentable. Claim 12 makes clear the step of polymerizing the polymers so as to obtain a varied topography of the substrate. In Schmidt, the substrate, whether it be substrate 14 or photoresist 10, is not varied at all due to the polymerized monomers. Accordingly, Schmidt cannot anticipate or render obvious Applicants' claim 12.

New claims 16 to 18:

New independent claim 16 is similar to claim 1 but adds additional details. For example, it is made clear that the monomers are applied after the polymerization starters have been selectively reduced. This step, in addition to the steps discussed above with respect to claim 1, is not disclosed or taught by Schmidt.

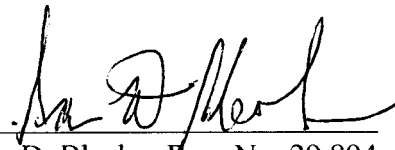
Claim 17 is similar to claim 12.

Claim 18 is dependent on claim 1 and makes clear the modulation of the radiation source which causes the selective reduction of the polymerization starters. Schmidt neither discloses nor teaches radiating the polymerization starters through a mask much less modulating the radiation source so claim 18 should be independently patentable.

Summary:

In view of all of the preceding remarks, all of claims 1 to 12 and 16 to 18 should be in condition for allowance. If the Examiner finds this application deficient in any respect, the Examiner is invited to telephone the undersigned at the Examiner's earliest convenience to resolve such deficiency.

Respectfully Submitted,
Rainer Krause, et al.


Ira D. Blecker Reg. No. 29,894
Telephone: (845) 894-2580

International Business Machines Corporation
2070 Route 52 M/D 482
Hopewell Junction, NY 12533
Fax No. (845) 892-6363